

Status of the Claims

The listing of claims will replace all prior versions, and listings of claims in the application.

1. (Currently amended) A method of making a diffractive optical element comprising:

providing a substrate that transmits light having wavelengths of about 100 nm to about 300 nm without substantial attenuation of the light;

forming an amorphous isotropic layer on the substrate, ~~which~~ that transmits the light ~~at wavelengths in the ranges~~ without substantial attenuation of the light;

patterning the layer; and

removing a portion of the layer from regions of the substrate based on the patterning, such that ~~a diffraction~~ the diffractive optical element is formed, wherein adjacent areas of removed and unremoved portions of the layer cause diffraction of transmitted light.

2. (Original) The method of claim 1, further comprising making the substrate from barium fluoride.

3. (Original) The method of claim 1, further comprising making the substrate from calcium fluoride.

4. (Original) The method of claim 1, wherein the forming step comprises forming the layer from silicon dioxide.

5. (Original) The method of claim 1, wherein the removing step comprises using a material that only removes the portions of the layer.

6. (Original) The method of claim 1, wherein the substrate acts as a stop to control a thickness of the layer.

7. (Original) The method of claim 1, wherein the providing step comprises providing the substrate having a thickness of about 1 mm to about 6 mm.

8. (Original) The method of claim 1, wherein the forming step comprises forming the layer to a thickness of about 100 nm to about 300 nm.

9-18. (Cancelled)

19. (Original) The method of claim 1, wherein the patterning step comprises:
forming a resist layer on the layer;
exposing a pattern onto the resist layer;
removing a portion of the resist layer based on the exposing;
removing a portion of the layer based on the patterned resist layer; and
removing a remaining portion of the resist layer.

20. (Original) The method of claim 1, wherein the forming step comprises forming the layer to a thickness substantially equal to the wavelength of the light.

21. (Original) The method of claim 1, wherein the providing step provides an optical element as the substrate.

22. (Original) The method of claim 1, wherein the providing step provides a lens as the substrate.

23. (Original) The method of claim 1, wherein the providing step provides a mirror as the substrate.